

FIRST HUBER BELT DRYER FOR SEWAGE SLUDGE IN THE USA

CASE STUDY



In 2011, HUBER USA won a public tender for an innovative drying concept with a total investment volume of approx. US \$ 3.8 million. The tender requirements included simple and easy equipment operation, a dust-free as possible end product which meets US EPA Class A requirements, and reliable elimination of odours. The HUBER USA offer convinced the customer due to a thoughtfully designed operation and control concept, comprehensive technical literature and high-quality products.

Our HUBER USA team ensured that project processing went off without problems. The equipment components of the drying plant were installed by the USA service team. Service specialists from Germany supported them during plant commissioning. The fully automated drying plant is operated at medium temperature.

The plant is a two-belt dryer with an active drying length of 2x 20 m. The sludge is dried from 18% initial DR to > 90% final DR. A boiler which is operated with natural gas and heats the water to approx. 95 °C serves as heat source. The drying air is heated with several heat exchangers in the dryer to ensure reliable drying of the fed sewage sludge.

The drying plant is operated with underpressure to prevent annoying odours in the drying hall. The exhaust air from the dryer is treated with two air washers. This solution reliably eliminates odours in the plant

environment. Due to the patented feed system of HUBER SE the sludge is pressed to spaghetti-like strands so that it has the ideal properties for drying. The sludge spaghetti have an increased surface-volume ratio and form a well permeable layer which is easy to dry. Furthermore, they maintain their compact form during the entire drying process. The end products is a dry, almost dust-free granulate which can be used as fertilizer.

The customer was also very much impressed by the control system of the plant. The clearly structured system makes it easy for the operating staff to reliably operate the complex plant equipment. Once the requested sludge throughput has been adjusted the plant regulates heat supply and air flow on the basis of the air parameters measured in the dryer. While sewage sludge drying takes place fully automatically the drying system permanently monitors the drying air and the dry substance content at the discharge end of the dryer. The complete drying plant is represented on a clear and user-friendly control system. Due to this well-thought-out control concept the plant can adjust itself to different operating states. The thermal and electrical energy consumption is thus perfectly adjusted to the amount of sewage sludge to be dried with the result of highly efficient sludge drying.

The belt dryer installed at Mooresville is a cost-effective sewage sludge drying solution. It is not only the high

FIRST HUBER BELT DRYER FOR SEWAGE SLUDGE IN THE USA

CASE STUDY



energy efficiency of the system which contributes to the economic efficiency of the dryer but especially also the low operator attendance requirements for the fully automated plant. The costs for sewage sludge disposal have significantly been reduced.

